We claim:

1. A built-in self-test circuit for testing a serializer/deserializer circuit comprising:

a transmit register that transmits data to the serializer/deserializer for processing into processed data;

a receive register that receives the processed data from the serializer/deserializer; and

an error detector that detects errors in the processed data,

the transmit register being a programmable transmit register that transmits data having programmably varying characteristics.

2. The built-in self-test circuit of claim 1 wherein the programmably varying characteristics includes data sequence.

3. The built-in self-test circuit of claim 1 wherein the programmably varying characteristics include data sequence length.

4. The built-in self-test circuit of claim 1 wherein the programmably varying characteristics include data sequence and data length.

5. The built-in self-test circuit of claim 1 wherein the programmable transmit register comprises a programmable bit sequence generator that generates the transmitted data.

6. The built-in self-test circuit of claim 1 wherein the programmable transmit register comprises a shift register.

7. The built-in self-test circuit of claim 1 wherein the programmable transmit register comprises a pseudo random counter.

8. The built-in self-test circuit of claim 1 wherein the programmable transmit register comprises a register array and pointer.

9. The built-in self-test circuit of claim 1 wherein the programmable transmit register comprises a pseudo random counter and a register array.

10. The built-in self-test circuit of claim 1 wherein the transmitted data and processed data are parallel data.

11. The built-in self-test circuit of claim 1 wherein the error detector comprises a comparator.

12. A built-in self-test circuit for testing a serializer/deserializer circuit comprising:

a programmable transmit register that transmits data having programmably varying data sequences to the serializer/deserializer for processing into processed data;

a receive register that receives the processed data from the serializer/deserializer; and

an error detector that detects errors in the processed data.

13. The built-in self-test circuit of claim 1 wherein the programmably varying data sequences have programmably varying data sequence lengths.

14. The built-in self-test circuit of claim 12 wherein the programmable transmit register comprises a programmable bit sequence generator.

15. The built-in self-test circuit of claim 12 wherein the programmable transmit register comprises a pseudo random counter.

16. The built-in self-test circuit of claim 12 wherein the programmable transmit register comprises a register array and pointer.

17. The built-in self-test circuit of claim 12 wherein the programmable transmit register comprises a pseudo random counter and a register array and pointer.

18. An integrated circuit comprising:

a serializer/deserializer circuit that processes data; and

a built-in self-test circuit that includes,

a programmable transmit register that transmits data having programmably varying characteristics to the serializer/deserializer circuit for processing into processed data;

a receive register that receives the processed data from the serializer/deserializer; and

an error detector that detects errors in the processed data.

19. The integrated circuit of claim 18 wherein the programmable transmit register comprises a pseudo random counter.

20. The integrated circuit of claim 18 wherein the programmable transmit register comprises a register array and pointer.

21. In an integrated circuit, a method comprising:

providing programmably varying data to a serializer/deserializer circuit;

processing the transmitted data with the serializer/deserializer circuit to produce processed data; and

testing the processed data for errors.

22. The method of claim 21 wherein the providing step includes varying data sequences in the data.

23. The method of claim 21 wherein the providing step includes varying data sequence length of the data.

24. The method of claim 21 wherein the testing step includes comparing the provided data to the processed data.